

## ***NOAA In Your State***

# **Indiana**

***“NOAA’s science based work touches 300 million Americans daily, protecting lives and livelihoods. NOAA’s products and services are the result of the hard work of our dedicated staff and partner organizations located in program and research offices throughout the globe. The following is a summary of NOAA programs based in, and focused on, your state or territory. The entries are listed by statewide, region, and then by congressional districts and cities or towns.”***

**Dr. Kathryn Sullivan**

**Under Secretary of Commerce for Oceans and Atmosphere and NOAA Administrator**

### ***IN***

#### ***Statewide***

##### **National Ocean Service (NOS) - [Geodetic Advisor](#)**

The Geodetic Advisor is a jointly funded National Ocean Service (NOS) employee that resides in the state to provide liaison between NOS and the host state. The Geodetic Advisor guides and assists the state's charting, geodetic and surveying programs through technical expertise. The program is designed to fill a need for more accurate geodetic surveys, and is in response to the desire of states to improve their surveying techniques to meet Federal Geodetic Control subcommittee standards and specifications. The surveys provide the basis for all forms of mapping and engineering projects and monitoring of the dynamic Earth. This program also provides technical assistance in planning and implementing Geographic/Land Information System (GIS/LIS) projects.

##### **National Ocean Service (NOS) - [Great Lakes Bay-Watershed Education and Training Program](#)**

The NOAA Bay-Watershed Education and Training (B-WET) Program is an environmental education program that promotes locally relevant, experiential learning in the K-12 environment. The primary delivery of B-WET is through competitive funding that promotes Meaningful Watershed Educational Experiences (MWEEs). B-WET currently serves seven areas of the country: California, Chesapeake Bay, Great Lakes, Gulf of Mexico, Hawai'i, New England, and the Pacific Northwest. The Great Lakes B-WET Program recognizes that knowledge and commitment built from firsthand experience is essential for achieving environmental stewardship. Great Lakes B-WET responds to regional education and environmental priorities through local implementation of competitive grant funds.

### **National Ocean Service (NOS) - [Marine Debris Projects and Partnerships](#)**

The NOAA Marine Debris Program (MDP) leads national and international efforts to research, prevent, and reduce the impacts of marine debris. The program supports marine debris removal, education and outreach, and research projects in partnership with state and local agencies, tribes, non-governmental organizations, academia, and industry.

### **National Weather Service (NWS) - Automated Surface Observing Systems [Stations](#)**

The Automated Surface Observing Systems (ASOS) program is a joint effort of the National Weather Service (NWS), the Federal Aviation Administration (FAA), and the Department of Defense (DOD). ASOS serves as the Nation's primary surface weather observing network. ASOS is designed to support weather forecast activities and aviation operations and, at the same time, support the needs of the meteorological, hydrological, and climatological research communities. ASOS works non-stop, updating observations every minute, 24 hours a day, every day of the year observing basic weather elements, such as cloud cover, precipitation, wind, sea level pressure, and conditions, such as rain, snow, freezing rain, thunderstorms, and fog. There are 12 ASOS stations in Indiana.

### **National Weather Service (NWS) - Cooperative Observer Program [Sites](#)**

The National Weather Service (NWS) Cooperative Observer Program (COOP) is truly the Nation's weather and climate observing network of, by and for the people. More than 10,000 volunteers take observations on farms, in urban and suburban areas, National Parks, seashores, and mountaintops. The data are representative of where people live, work and play. The COOP was formally created in 1890 under the NWS Organic Act to provide observational meteorological data, usually consisting of daily maximum and minimum temperatures, snowfall, and 24-hour precipitation totals, required to define the climate of the United States and to help measure long-term climate changes, and to provide observational meteorological data in near real-time to support forecast, warning and other public service programs of the NWS. The data are also used by other federal (including the Department of Homeland Security), state and local entities, as well as private companies (such as the energy and insurance industries). In some cases, the data are used to make billions of dollars' worth of decisions. For example, the energy sector uses COOP data to calculate the Heating and Cooling Degree Days which are used to determine individuals' energy bills monthly. There are 172 COOP sites in Indiana.

### **National Weather Service (NWS) - NOAA Weather Radio All Hazards [Transmitters](#)**

NOAA Weather Radio All Hazards (NWR) is a nationwide network of radio stations broadcasting continuous weather information directly from the nearest National Weather Service (NWS) forecast office. NWR broadcasts official NWS warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week. Working with the Federal Communication Commission's (FCC) Emergency Alert System, NWR is an "All Hazards" radio network, making it the single source for comprehensive weather and emergency information. In conjunction with federal, state, and local emergency managers and other public officials, NWR also broadcasts warning and post-event information for all types of hazards – including natural (such as earthquakes or avalanches), environmental (such as chemical releases or oil spills), and public safety (such as AMBER alerts or 911 Telephone outages). There are 19 NWR transmitters in Indiana.

### **Office of Oceanic and Atmospheric Research (OAR) - [Sea Grant College Program](#)**

NOAA's National Sea Grant College Program is a federal-university partnership that integrates research, education and outreach (extension and communications). Sea Grant forms a network of 33 programs in all U.S. coastal and Great Lakes states, Puerto Rico and Guam. The Illinois-Indiana Sea Grant College Program fosters the creation and stewardship of an enhanced and sustainable environment and economy along southern Lake Michigan and the Great Lakes region through research, education, and outreach. Illinois-Indiana Sea Grant research: addresses the spread, introduction, and economic impact of aquatic invasive species; monitors emerging contaminants in Lake Michigan, especially pharmaceuticals; informs ecologically sound and sustainable coastal economic development and land use; and helps foster a viable aquaculture industry for the region. The administrative office is located at the University of Illinois at Urbana-Champaign.

## **[Great Lakes](#)**

### **National Marine Fisheries Service (NMFS) - [Restoration Center](#)**

In the Great Lakes, the Restoration Center focuses on restoring the most degraded environments--designated Areas of Concern—as well as reversing the environmental damages resulting from oil spills, chemical releases, and marine debris. Our projects address loss of habitat and diminished fish and wildlife populations. Since 2008, we have targeted roughly \$40 million to: restore more than 5200 acres of habitat for fish and wildlife; remove almost 200,000 metric tons of waste and demolition material; and open more than 780 miles of river for fish passage.

### **National Ocean Service (NOS) - [Great Lakes Observing System](#)**

The U.S. Integrated Ocean Observing System (IOOS®) is an operational system and a network of regional partners responsible for regional observations, data management, modeling and analysis, education and outreach, and research and development. The overarching purpose of U.S. IOOS is to address regional and national needs for ocean data and information. The Great Lakes Observing System (GLOS) provides public access to critical, real-time and historical information about the Great Lakes, St. Lawrence River and interconnecting waterways for use in managing, safeguarding and understanding these immensely valuable freshwater resources.

### **National Ocean Service (NOS) - [Navigation Manager](#)**

NOAA's navigation managers work directly with pilots, port authorities, and recreational boating organizations in Indiana. They help identify the navigational challenges facing marine transportation in Indiana and provide NOAA's resources and services that promote safe and efficient navigation. Navigation managers are on call to provide expertise and NOAA navigation response coordination in case of severe coastal weather events or other marine emergencies. The Office of Coast Survey has a navigation manager in Silver Spring, MD to support mariners and stakeholders in the Great Lakes region.

### **National Ocean Service (NOS) - [Coastal Storms Program](#)**

Coastal Storms Program transitioned resources to the Great Lakes region in 2012 and will continue providing support through 2017. Great Lakes project work will focus on the following priority areas: 1) improved weather observations, modeling, and risk communication to address hazards affecting beach safety and coastal development; 2) Shoreline assessment and management; and 3) stormwater impacts on aquatic resources. Outreach coordinators will be located with Minnesota and Wisconsin Sea Grant and a small grants competition was held in FY14, administered by Ohio Sea Grant.

### **National Ocean Service (NOS) - [Coastal and Estuarine Land Conservation Program](#)**

The Coastal and Estuarine Land Conservation Program (CELCP) brings conservation partners together to protect coastal and estuarine lands considered important for their ecological, conservation, recreational, historical, or aesthetic values. To date CELCP has protected more than 100,000 acres of land nationally and awarded one grant in Indiana. The program provides state and local governments with matching funds to purchase significant coastal and estuarine lands, or conservation easements on these important lands that are threatened by development. Lands or conservation easements acquired with CELCP funds are protected in perpetuity so that they may be enjoyed by future generations. CELCP has created an interactive map highlighting information about completed projects in your state.

### **National Ocean Service (NOS) - [Coastal Management Program](#)**

Through a unique Federal-state partnership, NOAA's Office for Coastal Management works with the Indiana Department of Natural Resources to implement the National Coastal Zone Management Program in Indiana. NOAA's Office for Coastal Management provides the coastal management program with financial and technical assistance to further the goals of the Coastal Zone Management Act and ensure our coastal waters and lands are used in a balanced way to support jobs, reduce use conflicts, and sustain natural resources.

### **Office of Oceanic and Atmospheric Research (OAR) - [CoastWatch](#)**

The NOAA CoastWatch Great Lakes regional node obtains, produces, and delivers environmental data and products for near real-time observation of the Great Lakes to support environmental science, decision making, and supporting research. This is achieved by providing access to near real-time and retrospective satellite observations and in-situ Great Lakes data. The CoastWatch node at GLERL provides clients including Federal, state, and local agencies, academic institutions, commercial/industries and the public, both within and outside of the Great Lakes region, with access to near real-time satellite observations and in-situ data for the Great Lakes. CoastWatch data are used in a variety of ways, including near real-time observation and tracking of algal blooms, plumes, ice cover, wind, water intake temperatures at fish hatcheries, two and three dimensional modeling of Great Lakes physical parameters such as wave height and currents damage assessment modeling, research, and educational and recreational activities. In addition, through a cooperative project with Michigan Sea Grant, Great Lakes CoastWatch satellite-derived surface temperature imagery is contoured and made available via Michigan State Sea Grant's web site. Great Lakes CoastWatch data and products benefit riparians as well as commercial and recreational users.

### ***IN - 1***

#### ***Michigan City***

### **Office of Oceanic and Atmospheric Research (OAR) - [Real-Time Meteorological Observation Network](#)**

The Marine Instrumentation Laboratory at the GLERL has deployed and is maintaining a real-time network of shore-based meteorological instrument packages including a location on Lake Michigan, at Michigan City. The meteorological observations obtained from the network are being used in GLERL's Great Lakes Coastal Forecasting System to improve nowcasts and forecasts of wind, waves, water levels, ice cover, and circulation. In addition, the National Weather Service has committed resources to support the network and forecast offices in Chicago, Milwaukee, and Grand Rapids are using the observations to improve marine forecasts and warnings. The Michigan City station measures/records wind speed, wind gust, wind direction, air temperature, dew point, relative humidity, station pressure, sea level pressure, and PAR 5-minute increments with web updates of this information every 15 minutes.

### ***IN - 2***

#### ***Syracuse***

### **National Weather Service (NWS) - [Weather Forecast Office](#)**

Located on State Highway 13 between North Webster and Syracuse in Kosciusko County, this NWS Weather Forecast Office (WFO) is staffed around-the-clock every day, and provides the best possible weather, water, and climate forecasts and warnings to residents of 24 counties in northern Indiana, eight counties in northwest Ohio and five counties in Michigan serving a population of more than 2,310,000. Highly trained forecasters issue warnings and forecasts for events, including severe thunderstorms, tornadoes, winter storms, floods, and heat waves. This essential information is provided to the general public, media, emergency management and law enforcement officials, the aviation and marine communities, agricultural interests, businesses, and others. Information is disseminated in many ways, including through dedicated government channels, satellite, the Internet, and NOAA Weather Radio All Hazards.

Forecasters also provide Impact-based Decision-Support Services (IDSS), both remotely and on-site, during critical emergencies, such as wildfires, floods, chemical spills, and for major recovery efforts such as those following the Joplin and Moore tornadoes, Hurricanes Katrina and Sandy, and the Sept. 11, 2001, terrorist attacks in New York City and Washington D.C. The WFO collects and disseminates precipitation, river, and rainfall data, and prepares local climatological data. Each WFO has a Warning Coordination Meteorologist who actively conducts outreach and educational programs, which helps build strong working relationships with local partners in emergency management, government, the media and academic communities. The WFO operates Automated Surface Observing Stations (ASOS), as well as the local Doppler Weather Radar, which provides critical information about current weather conditions. The radar data enables forecasters to issue warnings for tornadoes, severe thunderstorms, and flash floods.

### **IN-3**

#### **Fort Wayne**

##### **Office of Oceanic and Atmospheric Research (OAR) - [Science On a Sphere®](#)**

Science On a Sphere (SOS) is a room-sized global display system that uses computers and video projectors to display planetary data onto a six-foot diameter sphere, analogous to a giant animated globe. Researchers at NOAA developed Science On a Sphere® as an educational tool to help illustrate Earth System science to people of all ages. Animated images of atmospheric storms, climate change, and ocean temperature can be shown on the sphere, which is used to explain in a way that is simultaneously intuitive and captivating what are sometimes complex environmental processes.

### **IN – 7**

#### **Indianapolis**

##### **National Weather Service (NWS) - [Center Weather Service Unit](#)**

Housed in the Federal Aviation Administration's Indianapolis Air Route Traffic Control Center (ARTCC), the NWS Center Weather Service Unit (CWSU) staff provides forecasts and other aviation weather information to ARTCC personnel for use in directing the safe, smooth flow of aviation traffic in southern Indiana, southern Ohio, western West Virginia, and most of Kentucky.

##### **National Weather Service (NWS) - [Weather Forecast Office](#)**

Located at the Indianapolis International Airport, this NWS Weather Forecast Office (WFO) is staffed around-the-clock every day, and provides the best possible weather, water, and climate forecasts and warnings to residents of 38 counties in central Indiana. Highly trained forecasters issue warnings and forecasts for events, including severe thunderstorms, tornadoes, winter storms, floods, and heat waves. This essential information is provided to the general public, media, emergency management and law enforcement officials, the aviation and marine communities, agricultural interests, businesses, and others. Information is disseminated in many ways, including through dedicated government channels, satellite, the Internet, and NOAA Weather Radio All Hazards.

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**Office of Oceanic and Atmospheric Research (OAR) - [Carbon Cycle Gases and Halocarbons](#)**

NOAA's Earth System Research Laboratory (ESRL) operates a small aircraft-based North American network of sampling sites to measure vertical profiles of important greenhouse gas concentrations. Air is sampled above the surface up to approximately 25,000 feet above sea level using a relatively small, light, and economical automated system developed by ESRL researchers. These air samples are delivered to the ESRL laboratory in Boulder, Colorado for measurements of CO<sub>2</sub>, CH<sub>4</sub>, and other greenhouse gasses. This data will improve understanding and models of the global carbon cycle. Sampling is conducted bi-weekly. Some air samples from the small aircraft program are also analyzed for halocarbon gases that can destroy the stratospheric ozone layer. Halocarbon measurements help determine the effectiveness of efforts to protect and restore the ozone layer so it can protect us from the sun's ultraviolet radiation. These flights are part of the multi-year INFLUX campaign led by Purdue University.

**Office of Oceanic and Atmospheric Research (OAR) - [Tall Tower Carbon Measurements](#)**

NOAA's Earth System Research Laboratory (ESRL) operates trace gas monitoring sites at tall television transmitter towers in eight states, including Indiana. The sites were established to extend ESRL's monitoring network into the interior of North America in order to provide data to aid estimation of the net carbon balance of the continent. Variations of trace gases, especially carbon dioxide (CO<sub>2</sub>), are largest near the ground, so existing tall (> 400 meters) transmitter towers are utilized as platforms for in situ and flask sampling for atmospheric trace gases. There are 6 tower sites around Indianapolis, Indiana as part of the multi-year INFLUX campaign led by Purdue University.

**[IN – 9](#)**

**[Bedford](#)**

**National Environmental Satellite, Data, and Information Service (NESDIS) and Office of Oceanic and Atmospheric Research (OAR) - [U.S. Climate Reference Network](#)**

The U.S. Climate Reference Network (USCRN) is an operationally viable research network of 134 climate stations that are deployed nationwide. Data from the USCRN are used in various climate monitoring activities and for placing current climate anomalies into an historical perspective. The USCRN provides the United States with a reference network that contributes to an International network under the auspices of the Global Climate Observing System (GCOS).

**[Bloomington](#)**

**Office of Oceanic and Atmospheric Research (OAR) - [Science On a Sphere®](#)**

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# Indiana

**NOAA**

NATIONAL OCEANIC AND  
ATMOSPHERIC ADMINISTRATION  
UNITED STATES DEPARTMENT OF COMMERCE

